

LHC and RHIC are very similar, do we need both facilities?

This is not particle physics where the $\text{Higgs}_{\text{LHC}} \equiv \text{Higgs}_{\text{Tevatron}}$
 $\text{QGP}_{\text{LHC}} \neq \text{QGP}_{\text{RHIC}}$

Although at first glance things look similar the details are/could/should be different

There was only one machine to discover the QGP, but it will probably take many machines to truly establish its properties

We should also be discussing as a field what's to be done at LHC in 2020 era - not promoting attacking LHC program

Side note: Several LHC proponents in Europe with no vested interest in RHIC are making similar arguments
e.g. J. Schukraft QM

Physics I think we could develop into a case

RHIC versatility

Potential is there.

Energy scan, (asymmetric) species

Whole cube to fill in, barely started

- Critical point/ softest point
- Fluctuations
- Initial conditions/Pre-thermalization
- Baryon transport/high baryon density effects
- Long/multi-directional lever arm to test theories

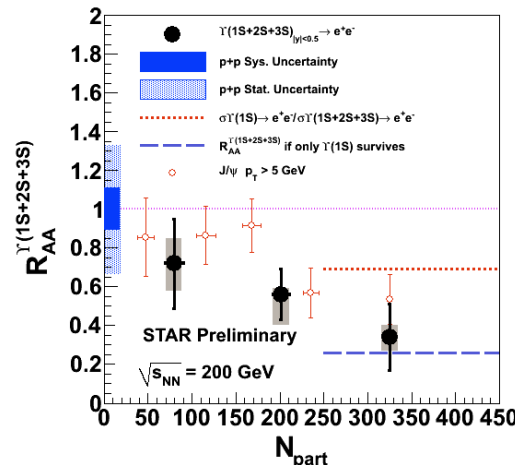
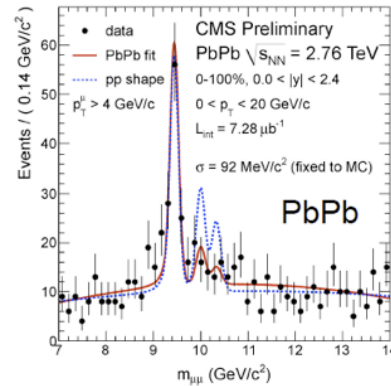
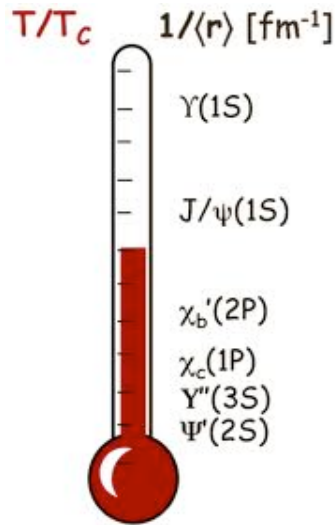
Needs a lot more discussion to beat into convincing argument that doesn't sound like "its there lets use it"



Physics I think we could develop into a

Quarkonia/Heavy Flavour

case



As far as I understand, not going to give us measurement of T
A whole slew of measurements are coming - need input from
theory to what quantitative numbers this will lead us to

Crucial to maintain A+A & pp capabilities into eA era?

We are planning into the future from a field that is ripe with examples of dramatic conceptual understanding changes

We should allow in our planning, as far as possible, for new ideas to surface at the last minute. i.e. epoch changing new results from LHC

EIC site decision is planned for after LRP

HI future at RHIC \leftrightarrow EIC future at RHIC

Can't/shouldn't disentangle but at same time need stand alone cases - subtle line to plough

Shut down to help fund EIC/new RHIC detector?

As long as we sell it properly - its not an end of HI, but upgrading to next era

How should collabs evolve smoothly from RHIC to eRHIC?

We should working even more closely together. Present a united RHIC front to the community not a STAR and a PHENIX front

CDF and D0 took separate data but joined together in working groups to perform analysis. H1 and Zeus similar idea

Long term I think will only be one HI experiment at RHIC. Need expertise from both experiments. If this involves cannibalizing both experiments and renaming to a neutral 3rd name so be it

Can we design an A+A experiment with some eA capabilities and an eA experiment with some A+A? So there is a cross-check of many measurements

The re-birth
of R2D???

